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Editorial

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It is my pleasure to present you with the first editorial of 2007 and to inform our readers about the journal. *The Visual Computer* continues to receive a high number of papers of excellent quality. The acceptance rate is approximately 40% as several papers go for resubmission procedure. The journal is publishing 12 issues per year and it is one of the most prolific computer graphics journal in the world. Also, thanks to the new automated reviewing system provided by Springer, and the tremendous efforts of the editorial board and external reviewers, the average turnaround time for a paper will be improved and we can hope to have papers published 4–5 months after submission.

As usual, *The Visual Computer* has regular issues and special issues. We try to find a balance between special issues of top conferences and regular issues. In 2006, we had **six** special issues which are listed below.

I take this opportunity to thank all authors, reviewers for all the work they brought into this journal. I thank also our readers and I hope they appreciate the journal. This year, the ranking of *The Visual Computer* has increased and we should continue to make it a leading journal in its field.

I would like also to thank the publisher for continuous support and collaboration. I wish all of you a happy and successful 2007.

Special issues for 2006:

IK 2004 special issue:

This special issue, edited by Deok-Soo Kim, In-Kwon Lee, Dani Lischinski and Ayellet Tal, contained papers se-

lected from the Fifth Israel-Korea Bi-National Conference on Geometric Modeling and Computer Graphics, which was held at Seoul National University, Korea, on October 11–12, 2004.

Computer Graphics Society 2004 (CGS'04) special issue:

This special issue contained a selection of the papers that were presented at the three conferences held under the auspices of the Computer Graphics Society (<http://cgswwww.miralab.unige.ch/>). The presented CGS annual conferences are:

1. The Computer Animation and Social Agent Conference (**CASA2004**), held in the University of Geneva, Geneva, Switzerland in July 2004.
2. The Computer Graphics International Conference (**CGI2004**), held in Crete, Greece in June 2004.
3. The Multimedia Modelling Conference 2004 (**MMM2004**) held in Brisbane, Australia, in January 2004.

CGI 2005 special issue:

This special issue was edited by Dr. Hanspeter Pfister and Prof. Dimitris Samaras, and comprised of selected papers of the Computer Graphics International 2005 (**CGI'05**) conference. CGI 2005 was held during three exciting days on June 22–24, 2005, in Stony Brook, New York.

VG PBG 2005 special issue:

This special issue, edited by Prof. Klaus Mueller and Prof. Matthias Zwicker, contained a selection of papers from the Volume Graphics Workshop 2005 (**VG'05**) and Point Based Graphics Symposium 2005 (**PBG'05**). Special thanks also to Prof. Mark Alexa for his involvement in the PBG'05 selection process. Both **VG'05** and **PBG'05** were held in June 2005 at Stony Brook, New York.

Pacific Graphics 2006 (PG'06) special issue:

This special issue contained 35 papers presented at Pacific Graphics 2006, the Fourteenth Pacific Conference on

Computer Graphics and Applications, held in Taipei, Taiwan on October 11–13, 2006. **PG'06** received a staggering 206 submissions, which were reviewed by 377 reviewers, including 65 Program Committee members. This process resulted in the 35 papers contained in this special issue, meaning that just one out of every six submissions was accepted. The acceptance was based on four technical reviews per paper.

Cyberworld 2005 special issue:

The papers appearing in this special issue edited by Prof. Seah Hock Soon, are six revised and improved papers which were presented at the International Conference on Cyberworlds, **CW2005**, held in Singapore on November 23–25, 2005.

In this first issue of 2007, we are happy to introduce seven accepted papers:

The first paper titled “A Novel Depth Buffer Based Shape Descriptor for Three-Dimensional Object” is authored by Georgios Passalis, Theoharis Theoharis, from the University of Athens, Greece and Ioannis Kakadiaris from the University of Houston, USA. In this paper they utilize depth buffers as shape descriptors, in order to compute an estimate of the thickness of an object along a given direction, and use this information to represent the object and perform comparisons in the spectral domain.

The next authors, Hacer Yalım Keleş, Alphan Es and Veysi İslar from Middle East Technical University, Turkey, propose a method to accelerate direct volume rendering using programmable graphics hardware (GPU). In the method, empty space skipping and early ray termination are utilized without any pre-processing on CPU side. All the acceleration structures of the method are created on the fly by making use of depth buffer efficiently on GPU side.

In the next paper a survey on uses of machine learning methods and concepts in recent computer graphics techniques, has been provided giving novel insights by casting many existing computer graphics techniques into a common learning framework. They also use their analysis to propose several directions for future work.

“Isotopic Meshing of Implicit Surfaces” is the next paper presented by authors from the University of Groningen, The Netherlands. The algorithm proposed in the paper is a simple and fast way to generate a piecewise linear approximation of implicit curves and surfaces that is isotopic to the curve or surfaces itself.

The next paper by authors from National Chiao Tung University, Republic of China, presents an efficient caching-based rendering technique for translucent materials. They propose a split-disk model to determine the cache distribution and show that only a few caches are required to interpolate the entire image. As a result, the speedup could be achieved up to one order of magnitude.

The sixth paper presents a novel physically-based technique allowing versatile deformation effects to be created using simple copy and paste operations. In addition to providing visual realism, the main advantages of this technique compared with other existing physically-based method are its reusability of deformation data, computational efficiency and friendliness to animators.

The final paper by Johannes Wallner, Helmut Pottmann and Michael Hofer from Vienna University of Technology, Austria, presents properties of fair webs and their discrete counterparts, fair polygon networks. It illustrates some of their interesting applications like fair remeshing, variational surface design in the presence of obstacles, surface parameterization and texture mapping, and surface restoration of geometric models containing holes.

Reviewer List for 2006:

Prof. Alexei Sourin, Nanyang Technological University
 Dr. Alireza Entezari, Simon Fraser University
 Prof. Allen Van Gelder, University of California at Santa Cruz
 Prof. Amitabh Varshney, University of Maryland
 Dr. Andrei Khodakovsky, NVIDIA Corp.
 Dr. Annie Luciani, INP-Grenoble
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 Jukka Arvo, University of Turku
 Prof. Kalpathi R. Subramanian, University of North Carolina at Charlotte

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 Prof. Kwan-Liu Ma, University of California, Davis
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